

Handwritten initials carried on the same ring, the bonding number and position thereof are different and when the single bond of the main chain rotate, they do not show the same structure and direction. That is, they are different from those which are formed by connecting 2 to 5 of one kind of arylene group or heterocyclic compound group.

On page 17, paragraph 2, bridging pages 17-18:

Handwritten initials Ar₁ may advantageously be selected so as not to deteriorate the fluorescent property of a polymer fluorescent body, and specific examples thereof include those satisfying conditions such as the relation of Ar₂ and Ar₄ in the above-described formula (2) and the like, among groups shown in the following chemical formulae 6 and 7 and those satisfying the relation of X₁ and X₉, X₂ and X₁₀, X₃ and X₁₁, and X₄ and X₁₂ and the relation of X₁ and X₁₂, X₂ and X₁₁, X₃ and X₁₀, and X₄ and X₉ in the above-described formula (5), and among groups shown in the following chemical formula 7. Wherein, when R₉ in the chemical formula 7 corresponds to R₇ in the above-described formula (5), at least one is a group other than a hydrogen atom.

On page 22, paragraph 2:

Handwritten initials Ar₅ in the above-described formula (3) and Ar₆ in the above-described formula (4) are an arylene group having 6 to 60 carbon atoms contained in the main chain, or a divalent heterocyclic compound group having 4 to 60 carbon atoms contained in the main chain.

On page 22, paragraph 3:

Handwritten initials When Ar₅ or Ar₆ has a plurality of substituents, they may be the same or different. For enhancing the solubility into a solvent, it is preferable that at least one substituent other than a hydrogen atom is carried, and it is preferable that the symmetric property of the form of a repeating unit including a substituent is low.

On page 22, paragraph 4, bridging pages 22- 23:

Ar₅ or Ar₆ may be advantageously selected so as not to deteriorate the fluorescent property of a polymeric fluorescent substance, and specific examples thereof include those divalent groups exemplified in the following chemical formulae 9, 10, 11 and 12.

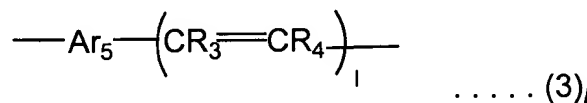
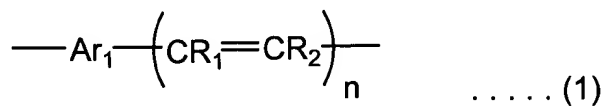
On page 51, paragraph 3, bridging pages 51-52:

A polymer binder to be mixed is preferably used which does not extremely disturb the charge transport property, and which does not have strong absorption of visible light. As such polymer binders, polycarbonate, polyacrylate, poly(methyl acrylate) poly(methyl methacrylate), polystyrene, poly(vinyl chloride), polysiloxane and the like are exemplified.

IN THE CLAIMS:

Please enter the following amended claims:

1. (Amended) A polymeric fluorescent substance which emits a fluorescence in solid state and having a number-average molecular weight of 10³ to 10⁸ in terms of polystyrene, wherein the substance contains one or more of repeating units represented by the following formula (1) and formula (3),



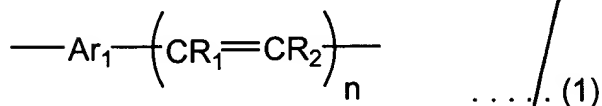
and these repeating units are so selected as to satisfy the following conditions (a) to (c):

(a): the total amount of the repeating units represented by the formulae (1) and (3) is 50 mol% or more of the amount of the whole repeating units,

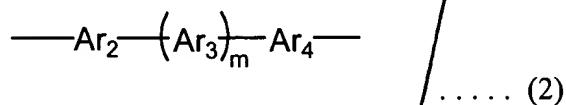
(b): the amount of the repeating unit represented by the formula (3) is more than 0.1 mol% and less than 9 mol% based on the total amount of the repeating units represented by the formula (1) and formula (3), and

(c): when the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (1) is represented by λ_1 (nm) and the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (3) is represented by λ_2 (nm), the following relation is satisfied:

$$1239/\lambda_1 \geq 1239/\lambda_2 + 0.05$$

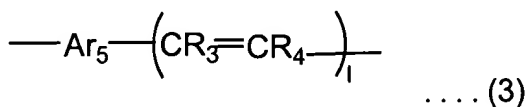


in the formula, Ar_1 is a group represented by the following formula (2); R_1 and R_2 each independently represents a group selected from the group consisting of a hydrogen atom, alkyl group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; and n is 0 or 1,



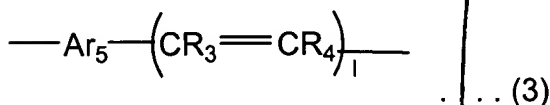
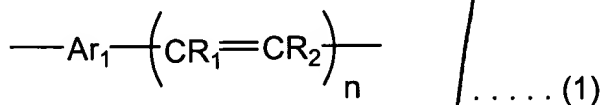
in the formula, Ar_2 to Ar_4 each independently represents an arylene group having 6 to 60 carbon atoms contained in the main chain, or a heterocyclic compound group having 4 to 60 carbon

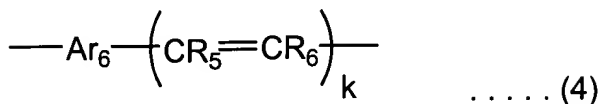
atoms contained in the main chain; at least one of Ar₂ to Ar₄ is a group other than a 6-membered ring, or at least one of Ar₂ to Ar₄ has a substituent other than a hydrogen atom; when a plurality of substituents are carried, they may be the same or different; adjacent rings may be mutually connected directly or via a substituent to form a ring; m is an integer from 0 to 3; wherein, Ar₂ and Ar₄ constitute a structure wherein if Ar₂ moves in parallel to the polymer main chain, it does not completely overlap Ar₄,



in the formula, Ar₅ represents an arylene group having 6 to 60 carbon atoms contained in the main chain, or a heterocyclic compound group having 4 to 60 carbon atoms contained in the main chain; R₃ and R₄ each independently represents a group selected from the group consisting of a hydrogen atom, alkyl group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; l is 0 or 1.

2. (Amended) A polymeric fluorescent substance which emits a fluorescence in solid state and having a number-average molecular weight of 10³ to 10⁸ in terms of polystyrene, wherein the substance contains each one or more of repeating units represented by the following formula (1), formula (3) and formula (4) respectively,





and these repeating units are so selected as to satisfy the following conditions (d) to (f):

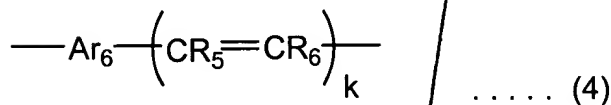
(d): the amount of the repeating unit represented by the formula (1) is 10 mol% or more of the amount of the whole repeating units, and the total amount of the repeating units represented by the formula (1), formula (3) and formula (4) is 50 mol% or more of the amount of the whole repeating units,

(e): the amount of the repeating unit represented by the formula (3) is more than 0.1 mol% and less than 9 mol% based on the total amount of the repeating units represented by the formula (1), formula (3) and formula (4), and

(f): when the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (1) is represented by λ_1 (nm), the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (3) is represented by λ_2 (nm) and the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (4) is represented by λ_3 (nm), the following relations are satisfied:

$$1239/\lambda_1 \geq 1239/\lambda_2 + 0.05$$

$$1239/\lambda_3 \geq 1239/\lambda_2 + 0.05$$



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in the formula, Ar₆ is an arylene group having 6 to 60 carbon atoms contained in the main chain, or a heterocyclic compound group having 4 to 60 carbon atoms contained in the main chain; R₅ and R₆ each independently represents a group selected from the group consisting of a hydrogen atom, alkyl group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; and k is 0 or 1.

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8. (Amended) The polymer light emitting device according to claim 5, wherein a layer comprising an electron transporting compound is disposed between the cathode and the light emitting layer so that the layer comprising an electron transporting compound is adjacent to said light emitting layer.

9. (Amended) The polymer light emitting device according to claim 5, wherein a layer comprising a hole transporting compound is disposed between the anode and the light emitting layer so that the layer comprising a hole transporting compound is adjacent to said light emitting layer.

10. (Amended) The polymer light emitting device according to claim 5, wherein a layer comprising an electron transporting compound is disposed between the cathode and the light emitting layer so that the layer comprising an electron transporting compound is adjacent to said light emitting layer, and a layer comprising a hole transporting compound is disposed between the anode and the light emitting layer so that the layer comprising a hole transporting compound is adjacent to said light emitting layer.

11. (Amended) A flat light source obtained by using the polymer light emitting device of claim 5.

Amendment Under 37 C.F.R. § 1.111
U.S. Application No. 09/630,407

12. (Amended) A segment display obtained by using the polymer light emitting device of claim 5.

13. (Amended) A dot matrix display obtained by using the polymer light emitting device of claim 5.

14. (Amended) A liquid crystal display obtained by using the polymer light emitting device of claim 5 as a back-light.